

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-4. (canceled)

5. (currently amended): A method for designing an integrated circuit, comprising:

manipulating representations of components of an integrated circuit on a display device by a user;

specifying an interconnect having a characteristic between a first represented component and a second represented component; and

extracting data suitable for describing the specified interconnect between the first represented component and the second represented component;

~~The method as described in claim 1,~~ wherein the extracted data includes a direct connectivity definition.

6. (canceled)

7. (currently amended): A method for designing an integrated circuit, comprising:

manipulating representations of components of an integrated circuit on a display device by a user;

specifying an interconnect having a characteristic between a first represented component and a second represented component; and

extracting data suitable for describing the specified interconnect between the first represented component and the second represented component;

~~The method as described in claim 1,~~ wherein the specified characteristic includes at least one of bandwidth, latency and scalability.

8. (canceled)

9. (currently amended): A method for designing an integrated circuit, comprising:

manipulating representations of components of an integrated circuit on a display device by a user;

specifying an interconnect having a characteristic between a first represented component and a second represented component;

extracting data suitable for describing the specified interconnect between the first represented component and the second represented component;
and

optimizing at least one of the components and interconnects ;

~~The method as described in claim 8,~~ wherein optimizing includes at least one of arranging components of the integrated circuit and specifying bandwidth between components.

10. (original): The method as described in claim 9, wherein components are arranged based on latency, scalability, timing considerations, power considerations, data switching and bandwidth.

11. (currently amended): A method for designing an integrated circuit, comprising:

manipulating representations of components of an integrated circuit on a display device by a user;

specifying an interconnect having a characteristic between a first represented component and a second represented component;

extracting data suitable for describing the specified interconnect between the first represented component and the second represented component;
and

optimizing at least one of the components and interconnects ;

~~The method as described in claim 8,~~ wherein optimizing is performed without user intervention by an agent.

12. (canceled)

13. (currently amended): A method for designing an integrated circuit, comprising:

manipulating representations of components of an integrated circuit on a display device by a user;

specifying an interconnect having a characteristic between a first represented component and a second represented component; and

extracting data suitable for describing the specified interconnect between the first represented component and the second represented component;

~~The method as described in claim 1,~~ wherein components include standardized interfaces.

A2 ✓
14. (currently amended): The method as described in claim 13, wherein the standardized interfaces communicate over ~~an interscalable~~ interscalable, isochronous interconnect glue logic.

15. (currently amended): A method for designing an integrated circuit, comprising:

manipulating representations of components of an integrated circuit on a display device by a user;

specifying an interconnect having a characteristic between a first represented component and a second represented component; and

extracting data suitable for describing the specified interconnect between the first represented component and the second represented component;

~~The method as described in claim 1,~~ wherein interconnects not specified by a user are automatically configured by an ~~agent~~ agent.

16. (canceled)

17. (currently amended): A system for designing an integrated circuit, comprising:

a display device, the display device suitable for displaying representations of components of an integrated circuit for manipulation by a user;

a memory suitable for storing a program of instructions; and
a processor suitable for performing the program of instructions, the
processor communicatively coupled to the display device and the
memory, wherein the program of instructions configures the
processor to

display representations of components of an integrated circuit
for manipulation by a user on the display device so that
a user may specify an interconnect having a
characteristic between a first component representation
and a second component representation, and
extract data describing the first represented component, the
second represented component and the specified
interconnect as manipulated by the user;

~~The system as described in claim 16,~~ wherein the specified characteristic includes at least one of bandwidth, scalability and latency.

18. (original): The system as described in claim 17, wherein bandwidth is specified including at least one of number of links and speed of links.

949 insufficient
to enable

19-21. (canceled)

22. (currently amended): A system for designing an integrated circuit,
comprising:

a display device, the display device suitable for displaying representations of
components of an integrated circuit for manipulation by a user;

a memory suitable for storing a program of instructions; and

a processor suitable for performing the program of instructions, the
processor communicatively coupled to the display device and the
memory, wherein the program of instructions configures the
processor to

display representations of components of an integrated circuit
for manipulation by a user on the display device so that

a user may specify an interconnect having a
characteristic between a first component representation
and a second component representation, and
extract data describing the first represented component, the
second represented component and the specified
interconnect as manipulated by the user;

~~The system as described in claim 16,~~ wherein interconnects not specified by a
user are automatically configured by an agent.

23. (canceled)

24. (currently amended): A system for designing an integrated circuit,
comprising:

a display device, the display device suitable for displaying representations of
components of an integrated circuit for manipulation by a user;

a memory suitable for storing a program of instructions;

a processor suitable for performing the program of instructions, the
processor communicatively coupled to the display device and the
memory, wherein the program of instructions configures the
processor to

display representations of components of an integrated circuit
for manipulation by a user on the display device so that
a user may specify an interconnect having a
characteristic between a first component representation
and a second component representation; and
extract data describing the first represented component, the
second represented component and the specified
interconnect as manipulated by the user;

and

an integrated circuit communicatively coupled to the processor, wherein the
integrated circuit receives the extracted data, wherein the extracted
data is utilized by the integrated circuit for being programmed to

include the interconnect having the characteristic between a first component corresponding to the first component representation and a second component corresponding to the second component representation;

~~The method as described in claim 23,~~ wherein the specified characteristic includes at least one of bandwidth, latency and scalability.

25. (currently amended): The ~~method~~ system as described in claim 24, wherein ~~bandwidth is~~ bandwidth specified including at least one of number of links and speed of links.

26-27. (canceled)

28. (currently amended): A system for designing an integrated circuit, comprising:

a display device, the display device suitable for displaying representations of components of an integrated circuit for manipulation by a user;

a memory suitable for storing a program of instructions;

a processor suitable for performing the program of instructions, the processor communicatively coupled to the display device and the memory, wherein the program of instructions configures the processor to

display representations of components of an integrated circuit for manipulation by a user on the display device so that a user may specify an interconnect having a characteristic between a first component representation and a second component representation; and

extract data describing the first represented component, the second represented component and the specified interconnect as manipulated by the user;

and

an integrated circuit communicatively coupled to the processor, wherein the integrated circuit receives the extracted data, wherein the extracted data is utilized by the integrated circuit for being programmed to include the interconnect having the characteristic between a first component corresponding to the first component representation and a second component corresponding to the second component representation;

~~The system as described in claim 23,~~ wherein interconnects not specified by a user are automatically configured by an agent.

29-30. (canceled)

- A2
31. (currently amended): An application specific integrated circuit, comprising:
a first component suitable for providing an integrated circuit function, the first component communicatively coupled to a first interface device;
a second component suitable for providing an integrated circuit function, the second component communicatively coupled to a second interface device;
an interconnect suitable for communicatively coupling the first interface device with the second interface device so as to enable communication of the first component with the second component;
a memory suitable for storing a program of instructions, the program of instructions including data received for configuring an interconnect having a characteristic between components of an application specific integrated circuit; and
a microprocessor suitable for performing the program of instructions, the microprocessor communicatively coupled to the memory, wherein the program of instructions configures the microprocessor to configure the first component, the second component, and the interconnect to correspond to an interconnect having the characteristic as indicated by the program of instructions;

~~The application specific integrated circuit as described in claim 29, wherein the interconnect is interscalable.~~

32. (canceled)

33. (currently amended): An application specific integrated circuit, comprising:
a first component suitable for providing an integrated circuit function, the
first component communicatively coupled to a first interface device;
a second component suitable for providing an integrated circuit function, the
second component communicatively coupled to a second interface
device;
an interconnect suitable for communicatively coupling the first interface
device with the second interface device so as to enable
communication of the first component with the second component;
a memory suitable for storing a program of instructions, the program of
instructions including data received for configuring an interconnect
having a characteristic between components of an application specific
integrated circuit; and
a microprocessor suitable for performing the program of instructions, the
microprocessor communicatively coupled to the memory, wherein the
program of instructions configures the microprocessor to configure the
first component, the second component, and the interconnect to
correspond to an interconnect having the characteristic as indicated by
the program of instructions;
wherein the microprocessor is suitable for self-programming to enable
optimization of the ASIC, and

~~The application specific integrated circuit as described in claim 32, wherein optimization includes routing of packeted data.~~

34. (currently amended): An application specific integrated circuit, comprising:
a first component suitable for providing an integrated circuit function, the
first component communicatively coupled to a first interface device;

a second component suitable for providing an integrated circuit function, the second component communicatively coupled to a second interface device;

an interconnect suitable for communicatively coupling the first interface device with the second interface device so as to enable communication of the first component with the second component;

a memory suitable for storing a program of instructions, the program of instructions including data received for configuring an interconnect having a characteristic between components of an application specific integrated circuit; and

a microprocessor suitable for performing the program of instructions, the microprocessor communicatively coupled to the memory, wherein the program of instructions configures the microprocessor to configure the first component, the second component, and the interconnect to correspond to an interconnect having the characteristic as indicated by the program of instructions;

~~The application specific integrated circuit as described in claim 29, wherein packeted data is routed based on at least one of an indicated priority of data, component resource availability, priority of data when compared through use of heuristic data and data characteristic.~~

35. (original) The application specific integrated circuit as described in claim 34, wherein the data characteristic includes streaming data and electronic storage device data.
36. (original) The application specific integrated circuit as described in claim 34, wherein component resource availability is determined by at least one of an amount of data previously transferred to a component, amount of data received from the component, characteristic of data sent to the component and characteristic of data received from the component.
-